

invention.

What is claimed is:

## CLAIMS

- 1        1. A flow system device used for creating fluid flow, said system comprising:  
2              at least one fluid filled loop;  
3              a rotor stage for maintaining at least one rotor, said loop positioned on said rotor;  
4              a driving motor for rotating said rotor stage; and  
5              a motion controller for controlling the speed and directional motion of said motor.
- 1        2. The flow system device of claim 1 further comprising a measurement system to record  
2              and calculate desired properties of the fluid within said at least one loop.
- 1        3. The flow system device of claim 1 wherein a vascular prosthesis is placed within the  
2              tube.
- 1        4. The flow system device of claim 3, wherein said vascular prosthesis is a stent or graft.
- 1        5. The flow system device of claim 1 wherein the created fluid flow is bidirectional.
- 1        6. The flow system device of claim 1 wherein the loop includes a one way valve.
- 1        7. The flow system device of claim 1 wherein the system included six rotors with six  
2              corresponding fluid filled loops.
- 1        8. The flow system device of claim 1 wherein the fluid is blood.

1           9. The flow system device of claim 1 wherein the stents are coated with gold or stainless  
2        steel.

1           10. The flow system device of claim 1 wherein the fluid flow within the loop is  
2        controllable such that thrombotic signal is created.

1           11. The flow system device of claim 1 wherein the fluid flow within the loop is  
2        controllable such that the effects of background noise is minimized.

1           12. A method of creating fluid flow, said method comprises:  
2           providing a fluid flow system including at least one loop, a rotor stage for maintaining at  
3        least one rotor, the loop positioned on the rotor, a driving motor for rotating the rotor stage and, a  
4        motion controller for controlling the speed and directional motion of the motor;  
5           filling the at least one loop with fluid which is to be tested;  
6           controlling the motor to obtain the desired motion of the fluid within the tube;  
7           measuring the desired effects of the fluid flow.

1           13. The method of claim 12 wherein the fluid flow system further includes a measurement  
2        system to record and calculate desired properties of the fluid flow within the loop.

1           14. The method of claim 12 wherein the fluid is blood.

1           15. The method of claim 12 wherein a vascular prosthesis is maintained within the tube.

1           16. The method of claim 15 wherein the vascular prosthesis is a stent or graft.

1        17. The method of claim 15 wherein the thrombotic effect of the vascular prosthesis on the  
2        blood is measured.

1        18. The method of claim 12 wherein the fluid flow is controlled such that the fluid flow  
2        begins, stops and begins to mimic the flow of blood due to the pumping of a heart.

1        19. A connector for connecting opposing ends of a tube, said connector comprises:  
2              a section of tubing to be positioned over the two opposing ends of a tube, and  
3              an elastic sleeve to be placed over said section of tubing such that the two ends of the tube  
4        are in axial alignment.

1        20. The connector of claim 15 wherein the inside diameter of the section of tubing is  
2        approximately the same as the outer diameter of the tube.

1        21. The connector of claim 15 wherein the elastic sleeve provides radial compression on  
2        the section of tubing.